CLAIMS

What is claimed is:

1.　A read error recovery method in which a plurality of error recovery operations are sequentially performed in order to recover an error occurring while data is read from a storage apparatus, the read error recovery method comprising:

applying parameters corresponding to each of the error recovery operations;

measuring the performance of each error recovery operation;

comparing the performance of a current error recovery operation with a performance of a previous error recovery operation; and

adding parameters corresponding to the current error recovery operation and parameters corresponding to the previous error recovery operation to parameters corresponding to a subsequent error recovery operation when the performance of the current error recovery operation is better than the performance of the previous error recovery operation, and ignoring the parameters corresponding to the current error recovery operation and adding the parameters corresponding to the previous error recovery operation to the parameters corresponding to the subsequent error recovery operation when the performance of the current error recovery operation is not better than the performance of the previous error recovery operation.

2.　The read error recovery method of claim 1, wherein the storage apparatus comprises a hard disk drive.

3.　The read error recovery method of claim 1, wherein the performance comprises a channel statistics measurement (CSM) from which an error state of a currently connected channel is checked, wherein a small CSM indicates an improvement of the performance of the error recovery operation.

4.　The read error recovery method of claim 1, wherein the parameters comprise an off-track value.

5.     The read error recovery method of claim 4, wherein the off-track value includes an offset value between a center of a magnetic head and a center of a track.

6.     The read error recovery method of claim 1, wherein the parameters comprise a magnetic resistance (MR) bias value.

7.     The read error recovery method of claim 6, wherein the magnetic resistance (MR) bias value is a bias current value set for an MR device included in a magnetic head.

8.     The read error recovery method of claim 1, wherein the parameters comprise a gain value used for an automatic gain control (AGC) for maintaining an amplitude of a playback signal constant.

9.     A storage apparatus which sequentially performs a plurality of error recovery operations in order to recover an error occurring while data is read from the storage apparatus, the storage apparatus comprising:
        means for applying parameters corresponding to each of the error recovery operations;
        means for measuring the performance of each error recovery operation;
        means for comparing the performance of a current error recovery operation with the performance of a previous error recovery operation; and
        means for adding parameters corresponding to the current error recovery operation and parameters corresponding to the previous error recovery operation to parameters corresponding to a subsequent error recovery operation when the performance of the current error recovery operation is better than the performance of the previous error recovery operation, and ignoring the parameters corresponding to the current error recovery operation and adding the parameters corresponding to the previous error recovery operation to the parameters corresponding to the subsequent error recovery operation when the performance of the current error recovery operation is not better than the performance of the previous error recovery operation.

10.     The storage apparatus of claim 9, wherein the storage apparatus comprises a hard disk drive.

11.  The storage apparatus of claim 9, wherein the performance comprises a channel statistics measurement (CSM) from which an error state of a currently connected channel can be checked, wherein a small CSM indicates an improvement of the performance of the error recovery process.

12.  The storage apparatus of claim 9, wherein the parameters comprise an off-track value.

13.  The storage apparatus of claim 12, wherein the off-track value includes an offset value between a center of a magnetic head and a center of a track.

14.  The storage apparatus of claim 9, wherein the parameters comprise a magnetic resistance (MR) bias value that is a bias current value set for an MR device included in a magnetic head.

15.  The storage apparatus of claim 9, wherein the parameters comprise a gain value used for an automatic gain control (AGC) for maintaining an amplitude of a playback signal constant.

16.  A read error recovery method comprising:
performing an Error Recovery Procedure (ERP) if data read has not been read successfully;
wherein the performance of the ERP comprises performing a Channel Statistics Measurement (CSM) and determining if CSM from a previous ERP is greater or lesser than a current CSM;
wherein if the CSM in the previous ERP is greater than the CSM in the current ERP, adding current parameters and previous parameters to subsequent parameters, and increasing current error recovery by one, and
if the CSM in the previous ERP is less than the CSM in the current ERP, ignoring the current parameters and adding previous parameters to subsequent parameters.

17.  The read error recovery method of claim 16, wherein the parameters comprise an off-track value.

18.    The read error recovery method of claim 17, wherein the off-track value includes an offset value between a center of a magnetic head and a center of a track.

19.    The read error recovery method according to claim 16, wherein the parameters comprise a magnetic resistance (MR) bias value.

20.    The read error recovery method according to claim 19, wherein the MR bias value is a bias current value set for an MR device included in a magnetic head.

21.    The read error recovery method according to claim 1, wherein the method is stored in a computer in form of a computer software language.

22.    The storage apparatus according to claim 12, wherein the error recovery operations are stored in a computer if form of a computer software language.

23.    The read error recovery method according to claim 16, wherein the read error recovery method is stored in a computer in form of a computer software language.